Quick Reference Install Guide
4003 Remote Start

Wiring Connections

Main Harness (H1), 9-pin connector

H1/1	LIGHT GREEN BLACK	(-) 200mA FACTORY ALARM DISARM
H1/2	GREEN/WHITE	(-) 200mA FACTORY ALARM REARM
H1/3	YELLOW	(+) IGNITION OUT (TO ALARM)
H1/4	WHITE/BLUE	(-) ACTIVATION INPUT
H1/5	ORANGE	(-) 500mA GROUND WHEN LOCKED/ANTI-GRIND OUTPUT
H1/6	BROWN	(-) 200mA HORN OUTPUT
H1/7	RED/WHITE	(-) 200mA TRUNK RELEASE OUTPUT
H1/8	BLACK	GROUND
H1/9	WHITE	(+/-) LIGHT FLASH OUTPUT

Door Lock, 3-pin connector

1	BLUE	(-) UNLOCK
2	EMPTY	NOT USED
3	GREEN	(-) LOCK

Remote start (H2) 6-pin connector

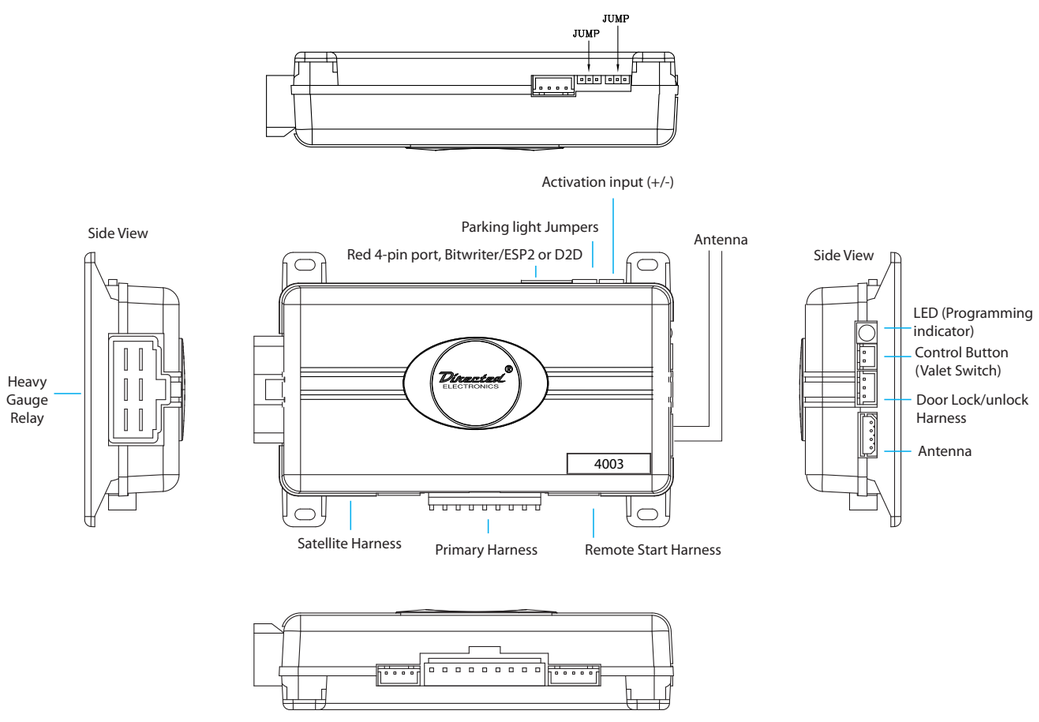
H2/1	PINK	OUTPUT TO PRIMARY IGNITION CIRCUIT
H2/2	PURPLE	OUTPUT TO STARTER CIRCUIT
H2/3	ORANGE	OUTPUT TO ACCESSORY CIRCUIT
H2/4	RED	(+) (30A) HIGH CURRENT 12V INPUT
H2/5	PINK/WHITE	OUTPUT TO SECOND IGNITION/ACCESSORY CIRCUIT
H2/6	RED	(+) (30A) HIGH CURRENT 12V INPUT

Satellite harness - 4-pin connector

1	BLUE	(-) 200mA STATUS OUTPUT
2	ORANGE	(-) 200mA ACCESSORY OUTPUT
3	PURPLE	(-) 200mA STARTER OUTPUT
4	PINK	(-) 200mA IGNITION OUTPUT

Remote Start harness (H3), 5-pin connector

H3/1	BLACK/WHITE	(-) NEUTRAL SAFETY SWITCH INPUT
H3/2	VIOLET/WHITE	TACHOMETER INPUT WIRE
H3/3	BROWN	(+) BRAKE SHUTDOWN INPUT WIRE
H3/4	GRAY	(-) HOOD PIN SWITCH SHUTDOWN WIRE
H3/5	BLUE/WHITE	(-) 200 mA 2ND STATUS/REAR DEFOGGER



Installation Points

Tach Learning

To learn the tach signal:
1. Start the vehicle with the key.
2. Within 5 seconds, press and hold the Valet button.
3. After 3 seconds the LED will light constant when the tach signal is learned.
4. Release the Valet button.

> **Important:** This unit can learn the tachometer with the analog input or through D2D using an interface module. The unit confirms which source is used.

When programming tach learning with:
- **Analog**, the parking lights flash **one** time
- **D2D** inerface module, the parking lights flash **twice**

If the tachometer input on the system is connected to the vehicle, the D2D tachometer input will be ignored.

Virtual Tach

Note: Virtual tach is not recommended for diesel trucks

To program Virtual Tach:
1. After the install is complete, remote start the car.
2. If the car does not start on the first attempt, let the remote start attempt again.
3. Once the car starts, let it run until the parking lights come on.
4. When the parking lights come on, shut off the remote start with the remote - that's it! Virtual Tach is programmed.

Virtual Tach handles disengaging the starter motor during remote starting – it does not address over-rev. If the customer wants to have the over-rev protection capability, the tach wire must be connected. This may involve more installation shop charges than initially quoted.

> **Important:** If the Virtual Tach mode over cranks or doesn't crank the vehicle long enough to start and run the car, use the Bitwriter to add or subtract the starter output time. You can adjust the output time in increments of 50msec of the learned time using the Bitwriter.

Red 4-pin port, Bitwriter/ESP2 or D2D programming

The Red 4-pin plug may be configured as a Bitwriter/ESP2 or D2D port.
The factory default is Bitwriter/ESP2 mode.

To use as D2D mode follow the below steps:
1. Make sure White/Blue activation wire is grounded.
2. Power the unit up. The system LED flashes for 5 seconds to confirm D2D mode change.
3. Remove the White/Blue wire from ground.

To change from D2D to Bitwriter/ESP2 mode:
1. Make sure the White/Blue activation wire is grounded.
2. Power the unit up, the system LED turns on solid for 5 seconds to confirm Bitwriter/ESP2 mode change.
3. Remove the White/Blue wire from ground.

The procedure can be repeated to toggle from one mode to the other.

> **Important:** If you power up the system with the White/Blue activation wire ungrounded, the system LED will come on solid for 5 seconds indicating the system is in Bitwriter/ESP2 mode.

How to Reset Features and Virtual Tach

If a feature/virtual tach needs to be reset or the remote controls need to be deleted, use the following procedure.

1. Turn the ignition to the ON position (The heavy gauge pink wire must be connected).
2. Within 10 seconds, press and release the Valet button: 2 times if you want to delete remotes, 3 times to reset features or 4 times to reset virtual tach. These features are described next.

   Reset Features: This resets all features of the system to the factory default settings.
   Note: This feature does not delete the remotes from the system or reset the Virtual Tach setting

   Virtual Tach Reset: Deletes all previously learned values for Virtual Tach, and on the next remote start sequence the unit begins virtual tach initialization.
   Note: The "Zap" feature on the Bitwriter does not reset the Virtual tach setting.

   Note: Channel 1 and 2 are unavailable.

3. Once you have selected the function step, press the Valet button once more and hold it. The LED flashes to confirm the selected channel. Do not release the Valet button.
4. Activate input. When the white/blue is pulsed the LED comes on solid to confrim the reset.

Once the feature is reset, the Valet button can be released.

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Programming System Features

The System Features Learn Routine dictates how the unit operates. It is possible to access and change most of the feature settings using the Valet button.

1. **Turn** the ignition on, then off.
2. **Select** a Menu. **Press** and **hold** the Valet button. When the LED flashes once, Menu One has been selected. Continue to hold the switch until the LED flashes twice. Menu Two has now been selected.Release the Program switch after the desired Menu choice has been selected.
3. **Choose.** Within 10 seconds, press and release the Valet button the number of times corresponding to the feature number you want to program. (See Features Menu section.)
   Once the Valet button has been pressed and released the desired number of times, press it once more and hold it. After a second, the LED will flash to indicate which feature you have accessed. For example, groups of eight flashes would indicate access to the status output feature (Feature 8 of menu 2).
4. **Activate Input.** Each time the white/blue is pulsed, the LED will turn on or off indicating the feature setting. If the feature has more than two selections, each time this input is pulsed the next available setting will be picked. For example if 60 minute runtime is chosen, (Feature 2, Menu 2) the LED flashes 3 times.
5. **Release**. The Valet button can now be released.

Once a feature is programmed:
- Other features can be programmed within the same menu
- Another menu can be selected
- The learn routine can be exited if programming is complete

To access another feature in the same menu:
1. **Press** and **release** the Valet button the number of times necessary to advance from the feature you just programmed to the next one you want to program.
2. Then **press** the Valet button once more and **hold** it.

To select another menu:
1. **Press** and **hold** the Valet button.
2. After 3 seconds, the unit advances to the next menu, the horn honks and LED flashes indicating which menu has been accessed.

The learn routine exits if any of the following occurs:
- The ignition is turned On
- There is no activity for 30 seconds
- The Valet button is pressed too many times

Bitwriter - Only Options

If programming with the Bitwriter®, the learn routine can be locked or unlocked. If the learn routine has previously been locked, it must be unlocked with Bitwriter® - this cannot be done manually with the Valet button.

The Bitwriter® gives you access to a wider range of system options. These features and the adjustments that may be programmed are described in the table below.

Menu Item	Feature	Default	Options
1	Engine Runtime	**12 min.**	1-60 min.
2	Diesel start type	**Off**	Timed
3	Diesel start delay time (seconds)	**15 sec**	1-90 sec.
4	Virtual Tach Fine Tune	**Not initialized**	0 to 1 second in 50 millisecond increments
5	Remote control programming	**Unlocked**	Locked
6	Feature Programming	**Unlocked**	Locked

Remote Start Shutdown Diagnostics

To perform shutdown diagnostics:
1. With the ignition Off, **press** and **hold** the Valet button.
2. **Turn** the ignition On and then back Off while **holding** the Valet button.
3. **Release** the Valet button.
4. **Press** and **release** the Valet button. The LED flashes to report the last shutdown for one minute or until the ignition is turned on, as shown in the following table:

LED Flashes	Shutdown Mode
1 flash	Timed out
2 flashes	Over-rev shutdown
3 flashes	Low or no RPM, low battery (voltage and virtual tach modes)
4 flashes	Transmitter shutdown (or optional push button)
5 flashes	(-) Hood Shutdown (H3/4 GRAY)
6 flashes	(+) Shutdown (H3/3 BROWN)
7 flashes	(-) Neutral safety shutdown (H3/1 BLACK/WHITE)
8 flashes	Wait-to-start timed out

Feature Menus

Default settings are in bold **type.**

Menu 1

Feature #	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	Horn function	**Off**	Siren 20 mS	Siren 30 mS	Siren 40 mS	Siren 50 mS
2	Ignition controlled lock	On	**Off**			
3	Ignition controlled unlock	On	**Off**			
4	Doorlock output duration	**0.8 sec.**	3.5 sec.	0.4 sec.		
5	Double pulse unlock	**Off**	On			
6	Double pulse lock	**Off**	On			
7	Factory Alarm Disarm function	**with unlock**	Before unlock	Remote start only		
8	Factory Alarm Disarm Pulses	**Single**	Double			
9	Comfort Closure	Comfort Closure 1	**Off**	Comfort Closure 2		
10	Panic	**On**	Off			

Menu 2

Feature #	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	Engine checking	**Virtual tach**	voltage	Off	tachometer	
2	Engine Runtime	**12 min**	24 min	60 min		
3	Park light output	Pulsed	**Constant**			
4	Cranking time	**0.6 sec.**	0.8 sec.	1.0 sec.	1.2 sec.	1.4, 1.6, 1.8, 2.0, 4.0 sec
5	Activation pulse count	**1 pulse**	2 pulses	3 pulses		
6	2nd Ignition behavior	**Ignition**	Accessory			
7	Accessory output	**Off during wait-to-start**	On during wait-to-start			
8	2nd Status behavior	**Normal**	Latch rear defogger	Pulse rear defogger		
9	Anti-grind	**On**	Off			
10	Diesel start delay	**Off**	Timed 15 sec	Timed 30 sec.	Timed 45 sec.	
11	Timer mode run time	**12 min**	3 min	6 min	9 min	

Bitwriters with a date code of 6a or older require an IC upgrade (p/n 998M). Some bitwriters with a date code of 6B do not require the IC upgrade, refer to tech tip # 1112 for more information.

D2D DATA TO DATA™

The Bitwriter® (p/n 998U) requires chip version **2.7** or newer to program this unit.

See full Installation Guide for more detailed information on this system. Such information and more can be found online at:
www.directechs.com

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